

In re Appln of Thomas M. Mayers et al
Application No. 10/789,000
Response to Notice of Non-Compliant Amendment (37 CFR 1.121)
mailed November 28, 2007

Listing of Claims:

Claim 1 (Amended). An abuse-resistant, cast acoustical ceiling tile having a core made from a starch gel and mineral wool fiber composition with the starch gel ranging from 75 to 83 weight percent of the core composition and the mineral wool fibers ranging from 17 to 25 weight percent of the core composition, wherein the front surface of the tile is coated with aggregate particles having an average particle mean diameter of at least about 1,000 microns.

Claim 2 (Original). The ceiling tile of claim 1 wherein the aggregate particles are selected from the group consisting of calcium carbonate, crushed marble, sand, clay, perlite, vermiculite, crushed stone and glass.

Claim 3 (Original). The ceiling tile of claim 2 wherein the aggregate particles are calcium carbonate.

Claim 4 (Original). The ceiling tile of claim 3 wherein the aggregate particles have an average particle mean diameter ranging from about 1,000 microns to about 3,000 microns.

Claim 5 (Original). The ceiling tile of claim 3 wherein the aggregate particles have an average particle mean diameter ranging from about 1,400 microns to about 2,500 microns.

Claim 6 (Original). The ceiling tile of claim 1 which has a noise reduction coefficient (NRC) value of at least about 0.50.

Claim 7 (Original). The ceiling tile of claim 2 which has a noise reduction coefficient (NRC) value of at least about 0.50.

Claim 8 (Original). The ceiling tile of claim 3 which has a noise reduction coefficient (NRC) value of at least about 0.50.

Claim 9 (Original). The ceiling tile of claim 4 which has a noise reduction coefficient (NRC) value of at least about 0.50.

Claim 10 (withdrawn). A process for making an abuse-resistant, cast ceiling tile wherein a wet mineral fiber/starch gel pulp is fed to a paper, foil or paper backed foil lined tray from a headbox;

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the pulp-filled tray is passed under a hopper which contains aggregate particles;

the aggregate particles are fed from the hopper onto the surface of the wet pulp in the tray so as to provide a uniform layer of aggregate particles across the surface of the wet pulp;

the wet pulp covered by a layer of aggregate particles is passed under a means to press the particles into the pulp; and

then the tray containing the aggregate particle covered wet pulp is passed into a drier.

Claim 11 (withdrawn). The process of claim 10 wherein the aggregate particles are fed from the hopper onto the surface of the wet pulp at a rate ranging from about 0.1 to about 1 pound per square foot of surface.

Claim 12 (withdrawn). The process of claim 10 wherein the aggregate particles are fed from the hopper onto the surface of the wet pulp at a rate ranging from about 0.2 to about 0.5 pound per square foot of surface.

Claim 13 (withdrawn). The process of claim 10 wherein the aggregate particles are calcium carbonate.

Claim 14 (withdrawn). The process of claim 11 wherein the aggregate particles are calcium carbonate.

The phone communication with Examiner Chevalier on October 30, 2007 is hereby gratefully acknowledged. During that phone communication, Applicants' attorney reported that he intended to file an RCE so as to amend the rejected claims and overcome the Examiner's contention that the limitations concerning the amount of starch gel and mineral wool fibers is not stated in the claims. The foundation for the amendments is set forth in the specification (page 4, lines 20-22), and it is believed that entry of the amendments will not require a new search.

REMARKS/ARGUMENTS

1. As set forth in the Examiner's Answer mailed October 2, 2007, the 35 U.S.C. § 102 rejection of claims 1, 2, 4-7 and 9 over Forry et al (U.S. Patent No.

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4,585,685), made of record in the Final Rejection mailed July 27, 2007, pages 2-3, paragraph #4 has been withdrawn due to Appellants' arguments in the appeal brief filed August 7, 2007.

Claim Rejections - 35 U.S.C. § 103

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baig (U.S. Patent Application Publication No. 2002/0139611 which issued as U.S. Patent No. 6,443,256). In the Examiner's Answer to Applicants' Appeal Brief, the Examiner indicates that unless Applicants present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art (the Baig reference), then the claims are unpatentable.

3. In response to the Examiner's contention, Applicants have amended claims 1-9, the rejected claims, to recite that the core composition contains starch gel ranging from 75 to 83 weight percent of the composition and mineral wool fibers ranging from 17 to 25 weight percent of the composition. These ranges of ingredients are set forth on page 4, lines 20-22. In addition, the pulp mix in Applicants' Examples contained 75.4 weight percent of starch gel and 24.6 weight percent of mineral wool fibers (page 9, lines 5-8). It is believed that this is an adequate foundation in the specification to support the amendment to claims 1-9.

4. The amended claims 1-9 clearly and patentably distinguish over the Baig reference. The Examiner is relying on the disclosure in Example 9 of the Baig reference to reject claims 1-9. As disclosed in said Example 9, the base mat formulation contained 36.6 percent by weight of mineral wool and 5 percent by weight of starch binder whereas the mineral wool rich overlay contained 86 percent by weight of mineral wool and only 3 percent by weight of starch binder. As disclosed in Example 9, the mineral wool rich surface was coated with dry calcium carbonate particles. The Baig mineral wool rich surface had only 3 percent by weight of starch binder whereas the starch gel in Applicants' core composition ranges from 75 to 83 weight percent. In addition, the Baig mineral wool rich surface contained 86 percent by weight of mineral wool, whereas

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Applicants' core composition contains only 17 to 25 weight percent mineral fibers. The Examiner contends that the prior art is substantially identical in composition and/or structure. The amended claims 1-9 clearly refute this contention.

5. The final paragraph in the Examiner's Answer implies that if the rejected claims recited that the core composition contains 75-83 weight percent starch gel and 18-25 (sic. 17-25) weight percent mineral wool fibers, claims 1-9 would distinguish over the Baig ceiling tile. Furthermore, Applicants discovered that in order to obtain improved abuse/impact resistance, the aggregate particles must have an average particle mean diameter of at least about 1,000 microns (see Example 2). The Examiner contends that it would require only routine experimentation to determine the optimum value of the mean diameter of the aggregate particles; however, there is no disclosure relative to abuse/impact resistance in the Baig reference and therefore no teaching that would lead a person skilled in the art to determine the criticality discovered by Applicants.

6. For the reasons set forth above, claims 1-9, as amended, are patentable over the Baig reference.

Respectfully submitted,

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